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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,434	03/28/2001	Kiwamu Inui	10873.679US01	2708

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09/11/2002

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EXAMINER

CHANEY, CAROL DIANE

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 09/11/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,434

Applicant(s)

INUI ET AL.

Examiner

Carol Chaney

Art Unit

1745

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) ☐ Of the above-claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claim 1, and the associated dependent claims, the references to flow path widths within a "predetermined range" and battery modules having a "predetermined temperature" are indefinite because applicant's specification fails to disclose criteria for determining these predetermined parameters. See *Seagram and Sons Inc. v. Mazall* 84 USPQ 180 (CAFD 1950).

With regards to claims 1, 3 and the associated dependent claims, the term "target width" is not a term of art and thus is indefinite. The claims have been examined as if the term "target width" indicates a "nominal width".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ovshinsky et al., WO 98/31959.

Ovshinsky et al. disclose a fluid-cooled battery pack system, including a battery pack case with coolant inlet and outlet means, and at least one battery pack module placed in the case. The modules are formed of bundled, electrically connected, batteries. The modules are placed within the case so that flow channels for the coolant are formed along at least one surface of the batteries. Coolant transport means are provided. (Note page 42, claim 1.) With regards to applicants' claims 2 and 3, the width of the coolant flow channels disclosed by Ovshinsky et al. are optimally sized to allow for maximum heat transfer through convective, conductive and radiative heat transfer mechanisms. (Note page 29, line 30-page 30, line 9.) Thus, the channels are sized to maintain temperature variations within a given range, and the battery module container materials are accounted for in calculating heat transfer mechanisms. With regards to applicants' claim 4, the a polymer (ie resin) material may be used for the battery case disclosed by Ovshinsky et al. (Note Ovshinsky et al., page 14, lines 20-21.) With regards to applicants' claims 5-9, Figure 15 and page 26, lines 22-32 of the Ovshinsky et al. patent disclose spacers between battery modules which serve as flow channels. With regards to applicants' claim 10, Ovshinsky et al. disclose battery pack cases containing modules which are spaced away from the case walls. (Ovshinsky et al., page 29, lines 25-32.) The spacings form upper and upper and lower cooling chambers. With regards to applicants' claim 11, Ovshinsky et al. disclose a pump, which will cause a difference in pressure, as a coolant transport means. (Ovshinsky et

al., page 43, lines 25-26.) The battery pack system disclosed by Ovshinsky et al. may maintain a temperature below 45°C, and a variation of temperature between modules of less than 8°C. (Ovshinsky et al., page 44, lines 29-30 and page 45, lines 1-3.) Thus, applicants' claim 12 is anticipated. The Ovshinsky et al. battery pack system is designed to use electrically insulating coolant, which may be either gaseous or liquid, and is preferably air. A forced-air blower, or fan may be used to transport coolant. (Ovshinsky et al., page 30, lines 21-31.) The fan may be placed at either the coolant inlet or the coolant outlet. (Ovshinsky et al., page 43, lines 7-16.) Thus, applicants' claims 13-18 are also anticipated.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mita, US Patent 5,456,994 and Oshida et al., US Patent 5,585,204 disclose temperature control in battery systems.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (703) 305-3777. The examiner can normally be reached on Mon - Fri 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Carol Chaney
Primary Examiner
Art Unit 1745

cc
September 3, 2002